

## README

Summary statistics were generated from Ambient Monitoring data for 21 facilities for TN and TP. Ambient Water Quality data downloaded for the last ten years (1/1/2005 - 9/2/2015) from the Water Quality Portal. Data were only available for MT00200 the last 15 years (2003) so these data were also included. Summary statistics were generated by NPDES ID (Count, Average, M Standard Deviation, 75th %tile, min sampling month, max sampling month, min date, max date). Non-detect values were reported the detection limit or zero in rare cases when a detection limit was not reported. Results were screened using comment fields to remove QA/QC samples and according to comments that call the quality of the data into question.

### Assumptions

TN - The following parameter names were all considered as TN: "Nutrient-nitrogen" and "Nitrogen, mixed forms". If more than one parameter was present on a sampling day, the results were preferentially selected in the order the parameters are listed. If none of these parameters were included for a sampling day, the sum of TKN and Inorganic nitrogen (nitrate+nitrite) was computed. This accounted a data point for all sampling days. Multiple observations of the same parameter for these parameters was not encountered for these stations.

TP - The following parameter names were all considered as TP: "Phosphorus" and "Phosphate-phosphorus". If more than one parameter was present on a sampling day, the results were preferentially selected in the order the parameters are listed (e.g., phosphorus first, than phosphate-phosphorus). Some values were reported as Characteristic Name "Phosphate" with units "mg/L" so these values were converted to the "Phosphate-phosphorus" parameter. Multiple observations of the same parameter for these parameters was not encountered for these stations.

Data were included if the monitoring date range fell anywhere within the criteria application range. See note below.

Data were screened out from one downstream station for NPDES MT0021211. The upstream station was viewed to have more applicable data.

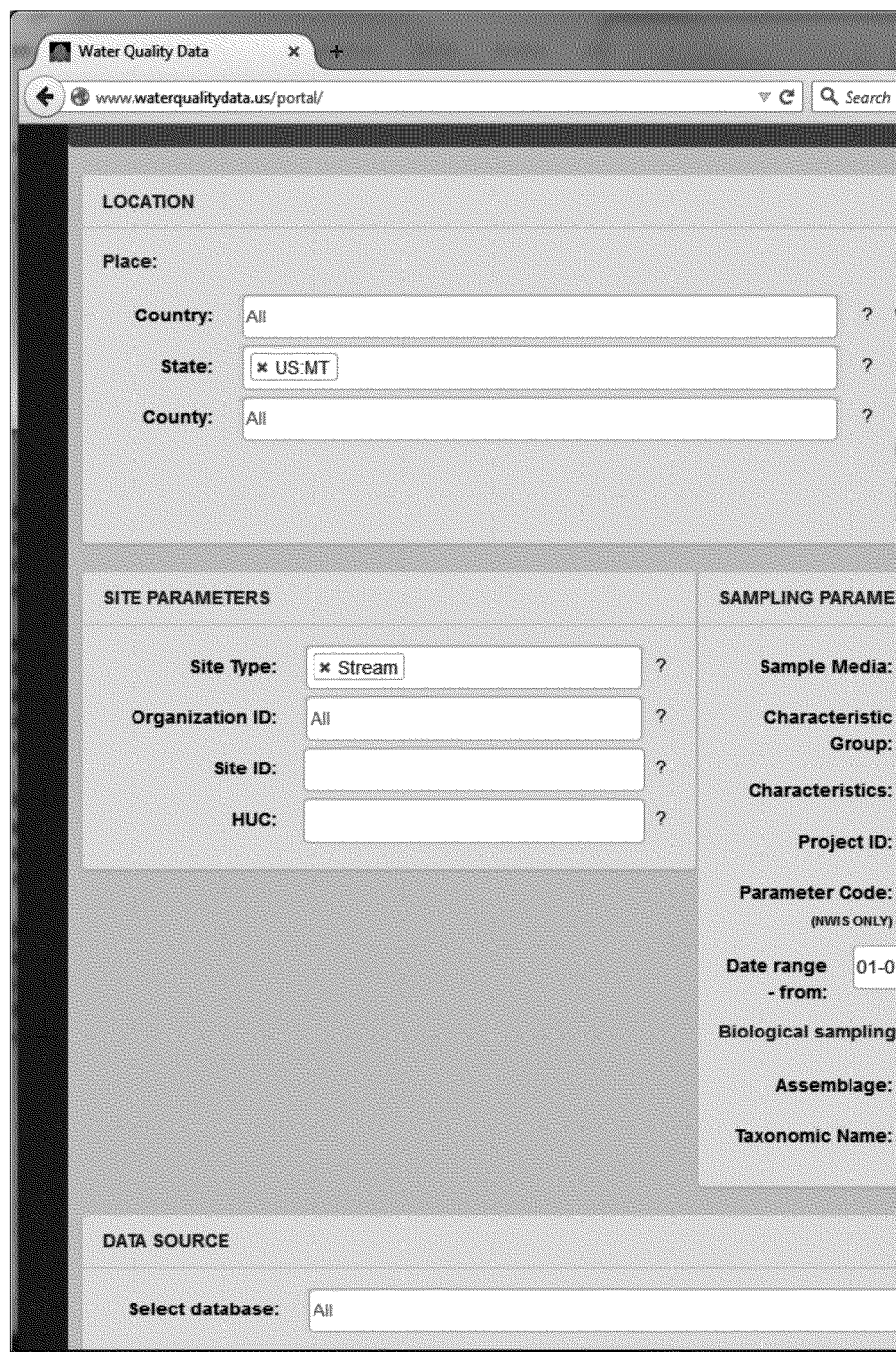
### Findings of interest

Nitrogen and Phosphorus samples for these facilities ended up being paired, which is why counts and date ranges are identical. If sampling was random, paired data were not targeted.

No data were available in the vicinity of MT0023566.

2 facilities (MT0030295, MT0030309) had data only outside the criteria date range, so these data were reported but with a note. The dates were all within a month of the criteria range.

Water Quality Portal Download from September 2, 2015  
Settings – limited to lakes and streams to get only surface water:



Water Quality Data

www.waterqualitydata.us/portal/

Search

### LOCATION

Place:

Country: All ?

State: x US:MT ?

County: All ?

### SITE PARAMETERS

Site Type: x Stream ?

Organization ID: All ?

Site ID: ?

HUC: ?

### SAMPLING PARAMETERS

Sample Media:

Characteristic Group:

Characteristics:

Project ID:

Parameter Code: (NWIS ONLY)

Date range - from: 01-01

Biological sampling

Assemblage:

Taxonomic Name:

### DATA SOURCE

Select database: All

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Point Location: ?

Bounding Box: ?

Within

North:

miles of

South:

Lat:

East:

Long:

West:

Use my location

TERS

✖ Water

?

✖ Nutrient

?

All

?

All

?

?

1-2000

to:

09-02-2015

parameters: ?

All

?

All

?

NPDES ID	Min Month	Max Month	Min Date	Max Date	Total Nitrogen				
					Count	Avg	Max	StDev	75th %tile
MT0020001	8	9	17-Aug-07	12-Sep-07	4	0.393	0.461	0.08166	0.4595
MT0020028	7	9	31-Jul-05	13-Sep-12	14	0.13107	0.25	0.05769	0.1625
MT0020044	7	9	21-Jul-09	22-Sep-10	18	0.48056	1	0.21635	0.6
MT0020052	8	8	17-Aug-03	17-Aug-03	1	0.26	0.26	NA	0.26
MT0020125	8	8	21-Aug-05	12-Aug-10	2	0.615	0.73	0.16263	0.6725
MT0020303	9	9	27-Sep-10	27-Sep-10	1	0.76	0.76	NA	0.76
MT0020354	7	7	19-Jul-05	19-Jul-05	1	0.25	0.25	NA	0.25
MT0020478	9	9	04-Sep-05	04-Sep-05	1	0.212	0.212	NA	0.212
MT0020656	8	8	19-Aug-05	12-Aug-10	2	0.96	1.2	0.33941	1.08
MT0020753	7	9	18-Jul-07	08-Aug-13	4	0.13025	0.16	0.03040	0.145
MT0021211	8	8	17-Aug-05	17-Aug-05	1	1.2	1.2	NA	1.2
MT0021440	6	9	22-Jun-05	16-Aug-13	21	0.72195	1.14	0.23677	0.88
MT0021750	7	9	22-Jul-09	01-Aug-14	4	0.03125	0.064	0.02727	0.046
MT0021857	8	9	25-Aug-08	22-Sep-09	3	0.3	0.48	0.16093	0.365
MT0022535	8	8	22-Aug-05	22-Aug-05	1	0.6	0.6	NA	0.6
MT0022713	7	9	31-Jul-05	14-Sep-12	14	0.15464	0.366	0.07178	0.1775
MT0028665	6	9	22-Jun-05	16-Aug-13	21	0.72195	1.14	0.23677	0.88
MT0030295	5	5	28-May-15	28-May-15	1	0.35	0.35	NA	0.35
MT0030309	5	5	31-May-15	31-May-15	1	0.51	0.51	NA	0.51
MT0030732	7	9	30-Jul-12	19-Sep-13	5	0.1638	0.219	0.03707	0.17



Total Nitrogen		Total Phosphorus				
	TN_parameters	Count	Avg	Max	StDev	75th %tile
	Nutrient-nitrogen	4	0.03165	0.051	0.02085	0.04755
	Nutrient-nitrogen AND TKN+Inorganic	14	0.00807	0.016	0.00284	0.009
	Nutrient-nitrogen AND TKN+Inorganic	18	0.04478	0.592	0.13683	0.01825
	TKN+Inorganic	1	0.012	0.012	NA	0.012
	Nutrient-nitrogen	2	0.0645	0.07	0.00778	0.06725
	Nutrient-nitrogen	1	0.009	0.009	NA	0.009
	TKN+Inorganic	1	0.022	0.022	NA	0.022
	TKN+Inorganic	1	0.003	0.003	NA	0.003
	Nutrient-nitrogen	2	0.047	0.052	0.00707	0.0495
	Nutrient-nitrogen AND Nitrogen, Mixed	4	0.005	0.007	0.00141	0.0055
	Nutrient-nitrogen	1	0.095	0.095	NA	0.095
	Nutrient-nitrogen AND Nitrogen, Mixed AND TKN+Inorganic	21	0.06771	0.239	0.05781	0.085
	Nutrient-nitrogen	4	0.00275	0.006	0.0025	0.00375
	Nutrient-nitrogen	3	0.009	0.015	0.00529	0.011
	Nutrient-nitrogen	1	0.027	0.027	NA	0.027
	Nutrient-nitrogen AND TKN+Inorganic	14	0.01143	0.021	0.00330	0.012
	Nutrient-nitrogen AND Nitrogen, Mixed AND TKN+Inorganic	21	0.06771	0.239	0.05781	0.085
	Nutrient-nitrogen	1	0.277	0.277	NA	0.277
	Nutrient-nitrogen	1	0.085	0.085	NA	0.085
	Nutrient-nitrogen	5	0.0192	0.03	0.00823	0.026



I Phosphorus		Notes
	TP_parameters	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	Data from 2003
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphorus AND Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphorus AND Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphate-phosphorus	
	Phosphorus AND Phosphate-phosphorus	
	Phosphate-phosphorus	Only data out of criteria month range - May
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	Phosphate-phosphorus	